Small and large group learning key feature in new curriculum

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The MD Program curriculum renewal which is a competency-based education model is grounded in the School's commitment to learner-centeredness, and focused on the knowledge, skills, and behaviours needed to provide excellence in patient care.

Building upon the strengths of the established curriculum, the renewed approach will more intentionally incorporate active learning experiences. This approach reflects the reality of continuous and collaborative learning required of physicians in contemporary health care settings.

Active learning strategies acknowledge that learners participate in and contribute to the learning process, working with teachers and peers to construct new knowledge and shared understanding. Active learning occurs within environments supported by teachers who provide the context and relevance of the content, along with multiple opportunities for feedback and assessment.

Learners and teachers are engaged in a continuous collaborative process of building and reshaping understanding as a natural consequence of their experiences and interactions within these rich active learning environments. Learners are encouraged to think critically, reflect, and present their information both independently, and as members of teams. Active learning strategies thereby prepare medical students for practice when they will be responsible for reviewing evidence to support their patient care decisions, as well as consulting with colleagues, and working in teams to solve emerging clinical challenges. By embedding active and competency-based learning processes early in our medical curriculum, our students will be better prepared for academic and clinical success.

Traditional medical education curricula passively transferred a set body of knowledge, from an "expert" to novices or peers, though large group lectures. Reinforcement of learning, via assessment or application to patient care, occurred after the lecture.

As medical knowledge continues to expand exponentially, contemporary medical curricula supports learners to become masters at managing and applying that knowledge effectively to patient care. The role of the medical school has flipped as students independently and asynchronously access knowledge via posted video/podcasts/articles/text and interactive media, while face-to-face classroom time is dedicated to learning the most difficult concepts by engaging with expert clinicians, health sciences researchers, and fellow learners. [2,3,4]

The renewed curriculum will incorporate multiple opportunities for small group learning, (SGL) as well as projects, labs, simulations, and interactive large group sessions. SGL opportunities will be forums for discussion, discovery, debate, and problem solving.

In groups of 10 or less, with faculty facilitators and student group leaders, learners will build on past content, discuss their understanding of new key concepts, propose applications, identify additional learning needs, and teach their peers. In established learning teams, or in ad hoc groups, SGL processes will motivate peers to perform and contribute.[2]

SGL fosters individual accountability in the learning process as well as a deeper understanding and improved retention of material. SGL has been attributed to numerous other learner benefits, including improved communication and collaborative skills, increased ability to manage conflict and move to consensus, and heightened self-confidence among participants.[2]

In the School, students will realize these benefits in targeted activities within large group sessions, during case-based sessions, and through team-based learning.

Team based learning (TBL) has been adopted by many medical educational programs both as a course strategy, as well as the overarching curricula structure.[1]

TBL supports knowledge acquisition and application, as well as specific development of competencies essential for functioning in effective teams. A typical TBL structure requires student to review content prior to class, and to complete an individual 'readiness' assessment.

During class, learners contribute to team learning tasks which are assessed at a team level. This process can occur in separate rooms or within sequestered space in a large lecture hall. Sessions are guided by one or more faculty facilitators and may be co-led with rotating student team chairs.

The team tasks may vary depending on the learning objectives and could include such tasks as the production of a concept map, writing multiple-choice questions, or the examination of a clinical case.

Cases are structured using the "4 S's": cases are the *Same* for all teams; have clinical and course *Significance; are Specific* in the action requested; and are reviewed in a large session *Simultaneously* using team submissions or via a class polling activity[7]. Responses are discussed as a moderated session with presentation of the "answer" and "best evidence for approach" by the expert faculty facilitator [2,5,6].

Active learning will also be integrated more meaningfully into large group learning (LGL) settings.

These sessions will be made more effective and interactive using the flipped classroom approach and by incorporating small group learning techniques. Interspersed within an 'expert' lecture, student engagement and participation will be fostered through strategically positioned convergent or divergent questioning, with responses generated via individual electronic polling, in neighbour "pair and share" discussions, or in break out groups.

The MD program is being renewed with a comprehensive set of active learning techniques, engaging teaching strategies, and assessment tools that will move our learners toward achieving the medical education competencies required for their future roles as clinical experts, patient advocates, and leaders in health care.

1. Burgess, A. W., McGregor, D. M., & Mellis, C. M. (2014). Applying established guidelines to team-based learning programs in medical schools: a systematic review. *Academic medicine*, *89*(4), 678.
2. Kalaian, S. A., & Kasim, R. M. (2017). Effectiveness of various innovative learning methods in health science classrooms: a meta-analysis. *Advances in Health Sciences Education*, *22*(5), 1151-1167.
3. Keren, D., Lockyer, J., & Ellaway, R. H. (2017). Social studying and learning among medical students: a scoping review. *Perspectives on medical education*, *6*(5), 311-318.
4. Ramnanan, Christopher J., and Lynley D. Pound. "Advances in medical education and practice: student perceptions of the flipped classroom." *Advances in medical education and practice* 8 (2017): 63
5. Jakobsen, K. V., & Knetemann, M. (2017). Putting Structure to Flipped Classrooms Using Team-Based Learning. *International Journal of Teaching and Learning in Higher Education*, *29*(1), 177-185.
6. Brame, C. J. Team Based Learning: What is it? Vanderbilt University: https://wp0.vanderbilt.edu/cft/guides-sub-pages/team-based-learning/
7. Sibley, J. Facilitating application activities. In Sweet, M., & Michaelsen, L. K. (2012). *Team-based learning in the social sciences and humanities: Group work that works to generate critical thinking and engagement*. Stylus Publishing, LLC..